

NEW SPECIES OF OLETHREUTINE MOTHS (TORTRICIDAE) FROM TEXAS AND LOUISIANA

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ABSTRACT. Three new species are described; the male imago and male and female genitalia of each are figured. *Eucosma rosaocellana* is described from eight specimens from northwest Texas, and contrasted with *E. salaciana* Blanchard & Knudson. *Dichrorampha broui* is described from 37 specimens from southeast Louisiana and northeast Texas, and is contrasted with *D. leopardana* (Busck) and *D. incanana* (Clemens). *Pammene medioalbana* is described from nine specimens from central Texas, and is contrasted with *Cydia latiuscula* (Heinrich) and *C. gallaesalaciana* (Riley).

The following three new species of olethreutine moths are described to facilitate completion of a catalogue-checklist of the moths of Texas, a project originated by André Blanchard. Many other undescribed species of Texas Lepidoptera remain or are likely to be discovered in the Tortricidae and other families. In many such cases, the families or their subdivisions are in such great need of revision that isolated descriptions of new species could confuse the situation. Since the last comprehensive revision of *Eucosma* (Heinrich 1923), numerous new *Eucosma* species have been described, but the one described below is quite distinctive, and is closely related to *E. salaciana* Blanchard & Knudson (1981). Heppner (1981) described two new species of *Dichrorampha* from Florida, and Miller (1983) reduced five *Dichrorampha* species names to synonyms, and summarized other recent work in this genus. No new species of *Pammene* have been described from North America since Heinrich's (1926) revision. The holotypes of all species described below are in the U.S. National Museum of Natural History (USNM).

Eucosma rosaocellana E. C. Knudson, new species (Figs. 1, 4, 7)

Description. *Head:* Front brownish white; vertex pale orange brown; labial palpi porrect, 2nd segment equal to $1\frac{1}{2}$ eye diameter, brownish white dorsally, scale tuft orangish, shading to gray at apex, 3rd segment equal to about $\frac{1}{2}$ eye diameter, brownish white; antennae brownish white, ventral setae about $\frac{1}{2}$ width of segments ($n = 5$). *Thorax:* Orangish brown above, with 3 transverse whitish bands; whitish beneath; legs whitish, tibiae and tarsi with several light gray bands. *Abdomen:* Brownish white above and beneath. *Forewing:* Ratio of length of costal fold (in male) to forewing length 0.32 ($n = 5$). Ground color whitish, reticulated with irregular vertical bands of grayish brown, and variably suffused with orange brown below costal margin and over lower fold. Subbasal fascia orange brown, margined with blackish brown and weakly represented at costal margin; median fascia grayish brown, margined with blackish brown and weakly represented beyond pretornal spot. Ocelloid patch a trefoil of pinkish opalescent scales

surmounted by a grayish brown patch containing two or three short horizontal black dashes. Costal margin strigulate with about 15 evenly spaced strong blackish brown dashes, with a like number of thinner paler dashes between them, all more or less connected to the irregular vertical bands. Fringe grayish brown mixed with white, mainly white over tornal third. *Hindwing*: Pale grayish brown, paler toward base; darker line at termen and a second dark line at the base of the whitish fringe. *Length of forewing*: Males, 7.1–10.0 mm, average 8.7 mm ($n = 7$); female, 8.6 mm ($n = 1$). *Male genitalia* (Fig. 4) ($n = 3$): Sacculus with ventral margin forming a rounded angle of 105–110 degrees at neck constriction; cucullus broadly rounded at apex, produced ventrally, with many short, spinose setae; cucullus width to length ratio 1.9–2.1; vesica with about 12 deciduous cornuti. *Female genitalia* (Fig. 7) ($n = 1$): Papillae anales large, bilobed; apophyses anteriores twice as long as apophyses posteriores; lamina postvaginalis well sclerotized, tapering toward an arcuate posterior margin; lamina antevaginalis broad, weakly sclerotized; ductus bursae slightly dilated over middle $\frac{1}{2}$, sclerotized on dorsolateral surface, ductus seminalis from just below middle; corpus bursae ovoid, tapering anteriorly, membranous, with two equal sized thornlike signa.

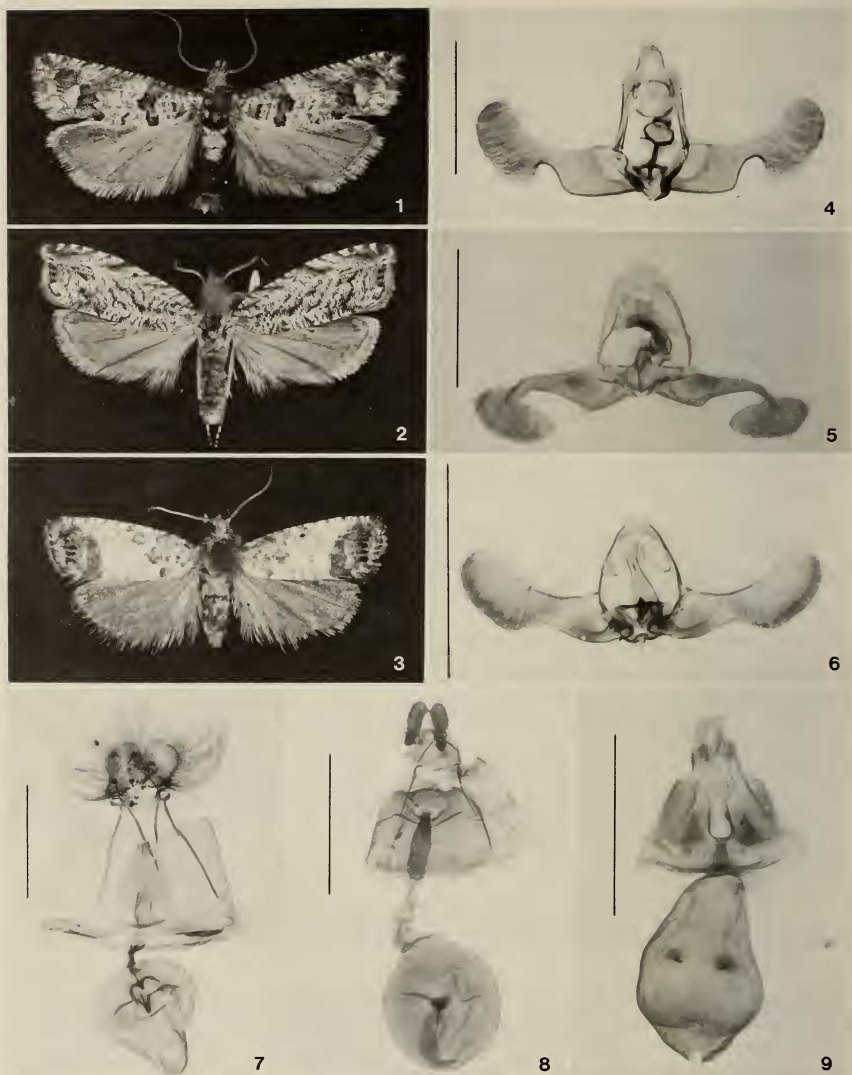
Types. *Holotype* (Fig. 1): Male, Texas, Hemphill Co., Gene Howe Wildlife Management Area, 18-V-85, collected by E. C. Knudson. *Paratypes*: Same data and collector as holotype, 6 males (three with genitalia on slides ECK 1159, 1374, 1375), retained by author; Cottle Co., Matador Wildlife Management Area, 30-VII-83, 1 female (genitalia on slide ECK 1167), in USNM.

Remarks. This species is closely related to *Eucosma salaciana* Blanchard & Knudson (1981), which has a similar forewing pattern, but is marked with dark gray, lacking any trace of orange, and is smaller, with an average forewing length in males of 7.1 mm ($n = 28$). Male genitalia of the two species are very similar, but the length/width ratio of the cucullus in *salaciana* is 2.2–2.4, and the ventral angle of the sacculus is 90 degrees ($n = 4$). Female genitalia of *E. salaciana* differ in the lamina postvaginalis, which is bilobed posteriorly, and in the apophyses posteriores, which are one-third the length of the apophyses anteriores ($n = 2$). The name of the new species refers to the pinkish ocelloid patch.

Dichrorampha broui E. C. Knudson, new species

(Figs. 2, 5, 8)

Description. *Head*: Front and vertex gray; labial palpi exceeding front by 2 eye diameters, dark gray with an oblique whitish band on lateral surface of 2nd segment; antennae gray. *Thorax*: Gray above, paler beneath; legs whitish, tibiae and tarsi banded with gray and white. *Abdomen*: Shiny yellowish gray above and beneath. *Forewing*: Male without costal fold. Ground color grayish white, marked with numerous closely spaced blackish strigulations, outwardly oblique from dorsal margin to radial vein, from there angled inwardly to costal margin. Basal and median fasciae weakly indicated by stronger, darker strigulations. Before termen at middle are three short black horizontal dashes, at tornus, a black dot separated from the three dashes by a whitish patch. Termen slightly produced at apex. On distal half of costal margin are five equally spaced white spots, the inner two or three geminate. Terminal line dark gray; fringe shining yellowish gray. *Hindwing*: Light gray, darker near termen; terminal line dark gray; fringe shining yellowish gray. *Length of forewing*: Males, 5.2–6.0 mm, average 5.5 mm ($n = 10$); females, 4.9–6.1 mm, average 5.6 mm ($n = 10$). *Male genitalia* (Fig. 5) ($n = 4$): Valva with costa bent anteriorly; neck incurvation broad, tapering to a narrow constriction before cucullus; cucullus ovoid, entirely anterior and extending well basad of neck in-



FIGS. 1, 4, 7. *Eucosma rosaocellana*. 1, Holotype male; 4, Male genitalia; 7, Female genitalia.

FIGS. 2, 5, 8. *Dichrorampha broui*. 2, Holotype male; 5, Male genitalia; 8, Female genitalia.

FIGS. 3, 6, 9. *Pammene medioalbana*. 3, Holotype male; 6, Male genitalia; 9, Female genitalia.

Scale lines represent 1 mm.

section; vesica with numerous tiny deciduous cornuti. *Female genitalia* (Fig. 8) ($n = 2$): Apophyses posteriores $\frac{2}{3}$ the length of apophyses anteriores; ostium bursae sclerotized, bilobed, with a short median groove; ductus bursae sclerotized over posterior half, ductus seminalis from near middle of anterior half; corpus bursae membranous with 1 thornlike signum.

Types. *Holotype* (Fig. 2): Male, Louisiana, St. Tammany Parish, 4.2 miles (6.7 km) NE Abita Springs, 12-IV-85, collected by V. A. Brou. *Paratypes*: Same locality and collector as holotype, 20-IV-84, 1 male, 1 female; 21-IV-84, 2 females; 22-IV-84, 1 male, 1 female; 29-IV-84, 1 female; 2-V-84, 1 female; 3-V-84, 1 male (genitalia on slide USNM 25933 by J. F. Gates Clarke in USNM); 7-IV-85, 1 female; 12-IV-85, 4 males, 2 females; 13-IV-85, 1 male, 1 female; 18-IV-85, 1 male (genitalia on slide ECK 1302); 19-IV-85, 2 males (one with genitalia on slide ECK 1378), 1 female; 20-IV-85, 4 males, 1 female; 23-IV-85, 1 male; 24-IV-85, 1 female; 27-IV-85, 1 female; all collected by V. A. Brou. Texas, Morris Co., Daingerfield State Park, 22-IV-85, 1 male (genitalia on slide ECK 1136), 1 female (genitalia on slide WEM 25852 by W. E. Miller); Jasper Co., Martin Dies Jr. State Park, 27-IV-86, 2 males, 2 females (one with genitalia on slide ECK 1384), collected by E. C. Knudson. Four Louisiana paratypes in USNM; four retained by author; remainder retained by collector. One Texas paratype in USNM, remainder retained by author.

Remarks. This species is similar in both male and female genitalia to *Dichrorampha leopardana* (Busck) (as illustrated by Heinrich 1926), but *broui* can easily be distinguished by forewing pattern, which lacks the orange striping of *leopardana*. Male genitalia of *D. broui* are also similar to those of *D. incanana* (Clemens) (as represented by Heinrich 1926), but in that species the male has a costal fold. The new species is named for its discoverer, Vernon A. Brou.

Pammene medioalbana E. C. Knudson, new species (Figs. 3, 6, 9)

Description. *Head*: Front and vertex light gray; labial palpi light gray, exceeding front by $\frac{1}{2}$ eye diameter; antennae dark gray. *Thorax*: Above, anterior $\frac{2}{3}$ dark gray, posterior $\frac{1}{3}$ whitish; whitish beneath; legs whitish, tarsi faintly banded with light gray. *Abdomen*: Whitish gray above and beneath; male with specialized sex scales on 6th and 7th terga, consisting of 5 or 6 irregular rows of persistent scale tufts on 6th tergum, and 2 or 3 rows of weak scale tufts on 7th tergum; both obscured by superficial scaling. *Forewing*: Ground color white; basal $\frac{1}{3}$ suffused with dark brown scales, forming a dark basal patch; median area mainly white with 3 obscure, darker, oblique striations; subterminal area from dorsal margin $\frac{3}{4}$ the distance from base to just before apex dark brown with a faint coppery luster, enclosing 4 or 5 short, horizontal black dashes margined by narrow silvery metallic bars; costal margin whitish with short, dark brown strigulations, most distinct over apical $\frac{1}{3}$; terminal line black, fringe shining gray. *Hindwing*: Dark gray, fringe light gray. *Length of forewing*: Males, 4.0–4.2 mm, average 4.1 mm ($n = 6$); females, 4.2–4.4 mm, average 4.3 mm ($n = 3$). *Male genitalia* (Fig. 6) ($n = 3$): Sacculus with a few strong hairlike setae before slight neck incurvation; cucullus broadly rounded; vesica with 3 or 4 small spinelike nondeciduous cornuti at apex, arranged in a line. *Female genitalia* (Fig. 9) ($n = 2$): Apophyses posteriores very slender, equal in length to broader apophyses anteriores; ostium bursae a short membranous funnel, lamina postvaginalis well sclerotized, U-shaped; ductus bursae short, well sclerotized; corpus bursae membranous with two small thornlike signa.

Types. *Holotype* (Fig. 3): Male, Texas, Gonzalez Co., Palmetto State Park, 23-III-85, collected by E. C. Knudson. *Paratypes*: Same data and collector as holotype, 5 males (3 with genitalia on slides ECK 1122, 1267, and 1273), 3 females (2 with genitalia on slides ECK 1163 and 1385). One male and one female paratype in USNM, others retained by author.

Remarks. This species is more similar in forewing pattern to *Cydia lautiuscula* (Heinrich 1926) (illustrated by Miller 1976) and *C. gallae-salaciana* (Riley) (as represented by Heinrich 1926) than to other North American species of *Pammene*, but the wing venation, abdominal scale tufts, and male and female genitalia are characteristic of the latter genus.

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